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Process and apparatus for producing plastic panels with undercut, integral attachments as well as such a plastic panel

Abstract:

An apparatus for the continuous and nondestructive production of plastic panels which are provided with undercut anchoring studs, web profiles or other forms of attachments (28) on one or both surfaces comprises a temperature-controlled chill roll (11), which has peripheral cooling bores (15) in the roll body (17). The roll body (17) is formed at the circumference as a polygon with flat supporting surfaces (25), against which the molding/demolding strips (13) are placed or from which they are lifted. The molding/demolding strips (13) are moved by means of piston/cylinder arrangements (16) and piston rods (18). The piston rods (18) move through transverse bores through the roll body (17).

The melt is filled into molds (27) of the molding/demolding strips (13) by the counterpressure between the shaping roll (11) and a counterroll (10) and is cooled down. During the filling of the molds (27), the molding/demolding strips (13) are pressed against the flat faces of the roll body (17). After cooling down, the plastic panel (20) produced, with anchoring studs (28) or other forms, is released in a nondestructive manner by opening the molding/demolding strips (13).

A plastic panel produced on such a calender (3) has undercut attachments (28), which are formed integrally with the plastic panel (20).

Figure 4